

## ABSTRACT

A method for stabilizing a laser frequency using sub-Doppler spectral spectrum of atoms, and a laser frequency stabilization device used in the method which is comprised of a gas charged  
5 cell, a laser, a laser frequency adjusting means, a laser beam dividing means for dividing the laser beam into a pump beam and a probe beam, a photo detector for measuring intensity of the probe beam after passed through the cell, an ON/OFF means for cutting off the pumping beam at a constant time interval, a computing means for obtaining the intensity of the probe beam, a demodulated signal of the probe beam, the difference in intensity between the probe and pumping  
10 beam, and a difference in demodulated signal, and a feedback means which feeds back the information to the laser frequency adjusting means, thereby stabilizing the frequency of the laser.